



Dyna-Form[®] Mercury Advance



**Direct Healthcare
Services**
Delivering the Promise

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User Manual

Dyna-Form is a registered trade mark of Direct Healthcare Ltd.

Products undergo continuous further development. We therefore reserve the right to change the specifications of the product and the warranty conditions without prior notice.



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" D e l i v e r i n g t h e P r o m i s e "



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The Dyna-Form® Mercury Advance Mattress is a “High / Very High Risk” dynamic replacement system, combined with the benefits of modern foam technology.

Offering high levels of patient comfort, this unique system has the facility to “step up” to that of a dynamic mattress when clinically required. Similarly, the mattress’s function can be downgraded as the patient’s condition improves. These features make it particularly beneficial for use within the patient’s home or palliative care environment and help reduce logistic and decontamination costs. The clinical benefits of a single system are equally applicable to those of a modern hospital setting. A higher maximum weight capacity, up to *40 stone / 254kg, allows the product to meet the modern challenges of those heavier clients. All component parts are interchangeable and replaceable, maximising product life and reducing environmental impact.

*Denotes when in Static Mode

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1. INTRODUCTION

The product consists of a “Foam and Air” filled mattress, that rests on top of the bed platform, and is connected via an umbilical hose, to a separate power/control unit. In Static Mode, the mattresses attains the pressure reducing properties of the Dyna-Form® Mercury static foam mattress (details available on request), whilst in Alternating Mode the mattresses is able to offer similar properties to a pressure relieving dynamic system. The Mattress consists of a series of 14 transverse air cells, each containing a unique foam profiled insert, which are in turn held within a foam U Core, all protected by a vapour permeable waterproof cover. The transverse cells are arranged into alternate pairs of A and B cells which are filled and emptied in sequence while the single head end cell and the formers remain inflated.



The digitally controlled Power Unit controls a pump that allows air to flow into, or out of the air cells as required according to the operating mode selected. It also maintains the air pressure within the mattress at the required level and controls the action of the audible/visual alarm system in the event of mains supply failure or over or under inflation pressure. A CPR Valve located at the pump end of the umbilical hose permits the rapid deflation of the Mattress in an emergency.

2. INSTALLATION

2.1. Mattress

Place the Dyna-Form® Mercury Advance Mattress directly on to the bed platform ensuring that the Blue multi-stretch waterproof cover is on top and that the umbilical hose is located at the left hand corner at the foot end of the bed.

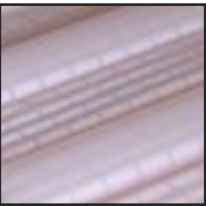
Note: The umbilical hose can be located inside the cover under the “Open Here for Air Inlet” printed in the bottom left hand corner of the mattress. Cover the Mattress with a loose fitting sheet. In line with MDA/2013/073 the manufacturer warns against the dangers of smoking in bed

Static Mattress Use

The Dyna-Form® Mercury Advance Mattresses can be used as a pressure reducing mattress for patients at High / Very High Risk of pressure ulcer damage without the need to attach the pump.

Alternating Mattress Use

If / When required, the Dyna-Form® Mercury Advance Mattress can be used as an alternating mattresses system by attaching the Dyna-Form® Mercury Advance pump system. No other system should be attached to the mattress as the design settings and internal air pressure properties of the Dyna-Form® Mercury Advance pump are specific to this mattress only.



The Dyna-Form® Mercury Advance is a replacement mattress system and should NOT be placed on top of any existing mattress.

2.2. Power Unit

Hang the Power Unit onto the footboard. The mounting hooks swivel to suit the thickness of the footboard or rail.

Connecting the Umbilical Hose to the Power Unit:



(a) Open the zip located at the bottom left hand side of the mattress and pull out the Blue Umbilical hose.



(b) Attach the Blue Umbilical Hose to the power unit by connecting the air connector at the end of the umbilical hose to the air inlet connector at the bottom left hand side of the pump. Ensure that the Red CPR Release button is located on top of the Air Inlet connector after connection is complete.

(c) Re-close the zip as far as possible without clamping the Blue Umbilical Hose to ensure the mattress and air cells are sealed within the cover.

3. OPERATION



Attach the mains cable to the pump by inserting the "kettle" type connector into the recess on located on the left hand side of the pump. The mains cable has been designed specifically as a removable part to aid in easy replacement should it become damaged in use.

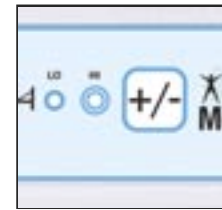
Plug the mains cable into a suitable 230v mains socket and switch on the Power Unit using the on/off switch.



After the pump has been turned on both the "Hi" and the "Lo" lights will flash together intermittently until the pump has attained its initial operating pressure. Once the pump has attained its initial operating pressure the "Lo" light will stay on constantly and the mattress is ready for use.

3.1. Lo / Hi Settings

The Dyna-Form® Mercury Advance Mattress, in Alternating Mode, has two pressure settings. The initial setting that the pump will revert to upon set up is "Lo". The "Lo" comfort setting is ideal for the lighter patient of those who feel discomfort when on a normal alternating air type mattresses system. However, for patients with existing pressure damage or those at Very High Risk, it is recommended that dependant on the



clinical judgement of the clinician, the "Hi" setting is activated by pressing the +/- button once, which is located on top of the pump. In "Hi" Mode the pump attains more of the characteristics of an alternating air mattresses system whilst still utilising the advantages of the static foam inserts. Repeatedly pressing the 'mode' button enables the Lo & Hi modes to be selected in turn.

3.2. CPR Deflation

The CPR system consists of a manually operated button located on the Air Inlet connector attached to the pump. By pressing the Red Button, which will release the connector locking system, the user can remove the connector unit which will deflate the mattress air system back to that of a static foam mattress.



Note: After a short period as the Mattress deflates the 'Low Pressure' alarm is activated and can be cancelled by switching the Power Unit off.

4. TRANSPORTATION

To change the location of the bed, remove the Umbilical cord and allow the mattress to return to its Static Mattress form. Switch off the Power Unit using the on/off switch and disconnect the electrical supply cable from the mains socket. The bed can now be moved to a new location where it must immediately be reconnected to the mains electrical supply and the Power Unit switched back on. Once the Mattress has been refilled, the 'Alternating' mode will automatically revert back to the Lo setting and should be reselected to Hi should this be desired by the clinician.

Warning: The Mattress will not 'alternate' when disconnected from the Power Unit and /or the mains electrical.

5. ALARMS

Alarm conditions are indicated by a flashing red display accompanied by an audible warning. In each case the user should respond by turning the Power Unit's switch off and investigating the cause.

5.1. High Pressure Alarm

This condition could be caused, for example by a kinked umbilical hose or visitors, and others, sitting suddenly on the Mattress.

5.2. Low Pressure Alarm

This condition could be caused, for example, by incorrect fitting of the air inlet connector, opening of the CPR Valve or a leak in the Mattress due to a cut or puncture.

5.3. Mains Failure Alarm

If mains power is lost the all Mode lights will turn off. This alarm condition will only be audible. The red alarm light will not flash.

6. MAINTENANCE PROCEDURES

6.1. Safety

Only qualified technicians trained or formally approved by Direct Healthcare Services Ltd. in the operation and maintenance of Direct Healthcare Services products may carry out maintenance, modification or repair work on the equipment.

Unqualified personnel attempting to work on Direct Healthcare Services Power Units risk serious injury to themselves and others and possibly death by electrocution.

6.2. Cleaning Procedures

Warning: Before cleaning the System make sure that the Power Unit is disconnected from the mains electricity supply.

Do not immerse the Power Unit in water or other fluids.

Do not autoclave, nor use phenol for cleaning.

Do wash hands before commencing the cleaning process.

Don appropriate protective clothing such as gloves, apron and a mask.

Ensure all work surfaces are cleaned before and after contact with the Mattress.

6.3. Cleaning the Mattress

1. With cover left on the Mattress disconnect the Mattress from the Power Unit.

2. Clean the surface of the wash down table with Hypochlorite solution or equivalent disinfectant.

3. Wash Mattress top using hot water (60 degrees C) containing detergent – dry with a paper towel.

4. For heavy contamination use a Hypochlorite solution 1,000 parts per million available chlorine.

7. Using suitable brush, hot water, detergent or Hypochlorite solution, clean Umbilical Hose and CPR Valve. Dry with paper towel.

8. If required, the Mattress Cover may be removed and machine-washed at a temperature of 90 degrees C, for not less than 10 minutes. The individual Air Cells can be wiped down with established disinfectants.

6.4. Cleaning the Power Unit

The Power Unit can be cleaned by wiping with a cloth dampened with a detergent solution or Hyperchlorite solution.

7. TECHNICAL DATA

7.1. Power Unit

Serial Number.....As per label on rear of pump

Electrical Supply.....220-240 volt, 50 Hz

Power Consumption.....10 watts

Fuses.....500 mA

Protection against shock.....Class 2

Noise Level.....Approx. 30 dB (A)

Dimensions.....235 x 180 x 80 mm

Weight.....1.7 kg

Service Interval.....12 months

7.2 Mattress

Serial Number.....Label on inside of mattress cover

Number of Air Cells.....14 Air Cells / 1 Static Foam Cell

Dimensions.....880 x 1980 x 150 mm (Nominal)

Weight.....13.4kg

